



January/February 2020

# Power

## BOING!

SOME ANIMALS TAKE  
LEAPING TO NEW LENGTHS





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## FEATURES

### 6 Winter Camping

Learn how to turn a snow day into a snowy sleepover.

### 10 Hoppy Leap Year!

We're jumping into this extra-long year by celebrating Missouri's bounciest critters.

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Pillows of snow fluff up the rocks in a stream at Three Creeks Conservation Area near Columbia.

by Noppadol Paothong





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**We recycle.**  
**You can, too! Share**  
**Xplor with friends.**

## ON THE COVER

Red Fox

by © Ondřej Prosický | Dreamstime.com



# GET OUT!

FUN THINGS TO DO  
AND GREAT PLACES  
TO DISCOVER NATURE



**CHECK THE WOODS FOR CHIPMUNKS.** They come out of hibernation in late February.



**WHO'S BEEN EATING THOSE SAPLINGS?**

Deer leave a ragged cut. Cottontails leave a neat 45-degree angle.

Take a walk in the snowy, sunny woods. **YOU MIGHT SPOT SOME SNOW FLEAS!**



Snow flea: Tom Murray / CC BY-ND-NC 1.0;  
Snow flea pile: ©Deepspace Dave | Dreamstime.com



**SPOTTED SALAMANDERS ARE ON THE MOVE IN LATE FEBRUARY.**

Who knew?!



**GREEN UP THE GLOOM OF WINTER.** Watercress grows cheerfully green around springs all winter long.



**WHITE PELICANS IN MISSOURI?**

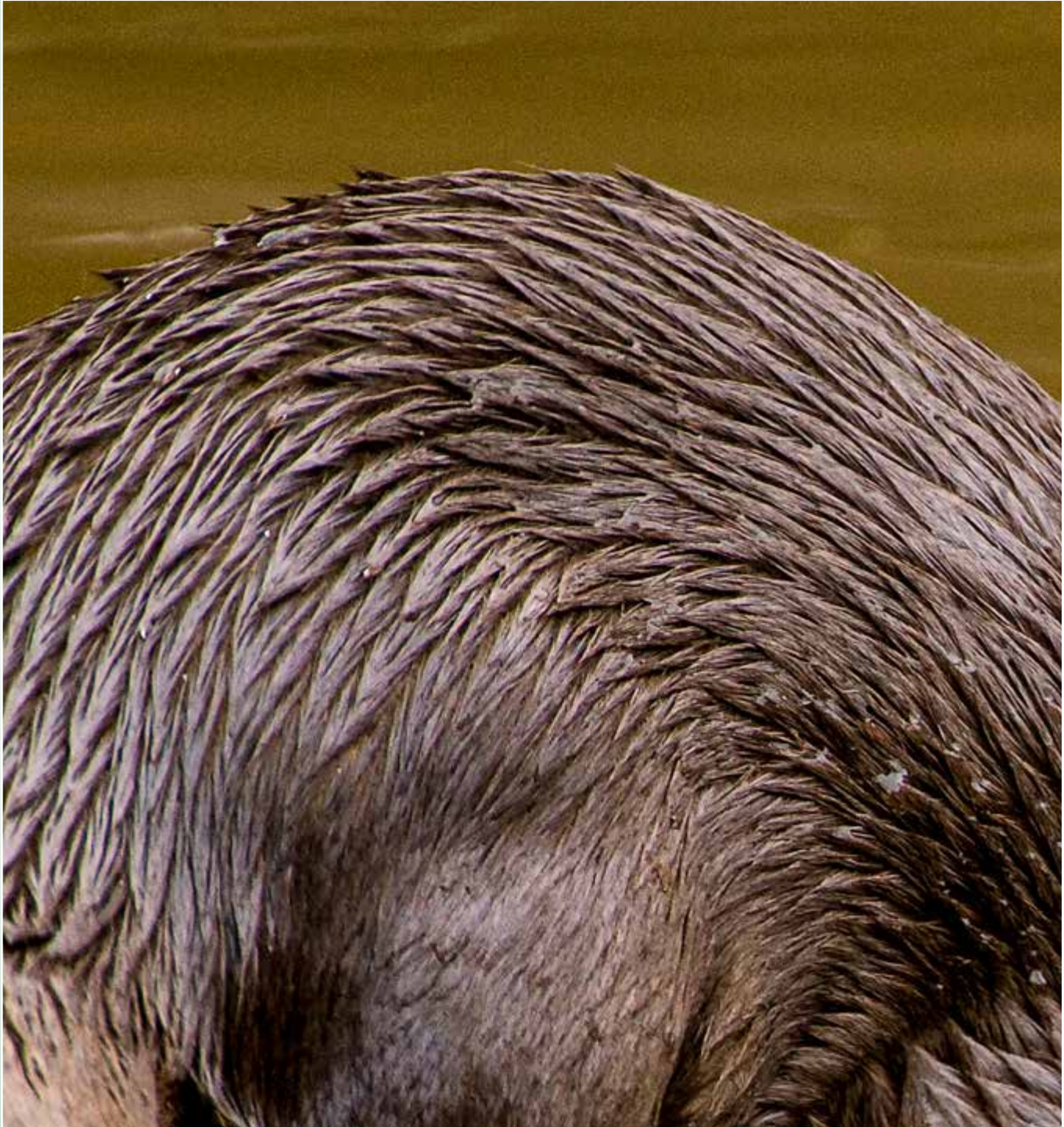
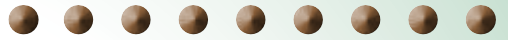
You bet! They gather on open water.

Watercress up close: Shaun Winterton, Aquarium and Pond Plants of the World, Edition 3, USDA APHIS PPQ, Bugwood.org



# WHAT IS IT?

**DON'T KNOW?**  
Jump to Page 20 to find out.



- ❶ I'm covered in fur and thick layers of fat.
- ❷ I hunt underwater with my family at night.
- ❸ In winter, we swim after all kinds of fish.
- ❹ Then we take time to play on the snow and the ice.





# Into the WILD frozen pond

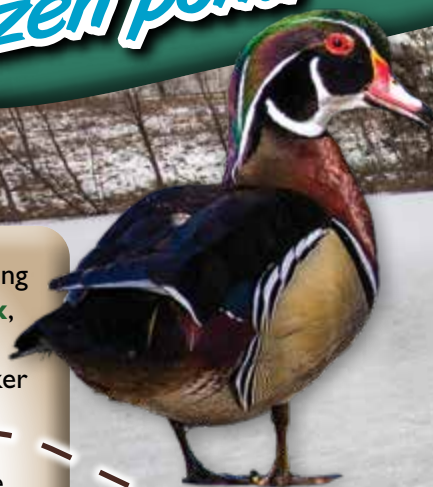
Under a blanket of ice, a frozen pond teems with life.

## Heads Up!

Never, ever play on an icy pond unless an adult says it's OK. Ice that isn't at least 4 inches thick isn't safe to walk on.

## Do More

Missouri's most dazzling duck, the **wood duck**, nests in hollow trees, abandoned woodpecker holes, and **human-made nest boxes**. Winter is a great time to set up wood duck boxes near tree-lined ponds. For plans, fly over to **audubon.org/news/how-build-wood-duck-nest-box**.



## Take a Closer Look

Peer through clear ice at the edge of a pond, and you may see aquatic insects swimming around in the chilly water. Look for backswimmers, predaceous diving beetles, and whirligig beetles.



## What Happened Here?

A wild picnic took place beside this pond. Raccoons, mink, or muskrats pried open **mussels** to munch on the meat inside. Then they tossed the empty shells up on the bank.





## LOOK

Watch for sparrows wandering around weedy shorelines searching for seeds to snack on. How many of these little brown birds can you find?



## Did You Know?

**Painted turtles** spend winter buried in mud at the bottom of ponds. They survive by absorbing oxygen through a part of their bodies scientists call the cloaca (*cloe-ay-kuh*). Most people have another name for this body part: rear end.

## Take a Closer Look

It takes 11 to 14 months for **bullfrog tadpoles** to turn into frogs. That means the chubby polliwogs spend winter underwater. If you're lucky, you might spot some swimming lazily under clear ice.

## Did You Know?

Luckily for fish and other aquatic creatures, ice forms from the top down on a pond, not from the bottom up. Unless the pond freezes completely, there's a layer of warmer water under the roof of ice.



## LOOK

**American mink** prowl pond edges looking for fish, rabbits, and rodents to eat. You probably won't see the mink itself, but you might find its paw prints, which are about the size of quarters.







# WINTER CAMPING

It's snow  
much fun!

by Bonnie Chasteen

Turn  
a snow day  
into a snowy  
sleepover. All you  
need is the right  
gear, one or two  
willing adults,  
and your  
BFF.

## Start With a Plan

Don't wait until the snow flies to start your adventure. Tell your folks you'd like to try winter camping, and see if your bestie would like to join you. Then keep an eye on the weather, and give your crew the heads-up a few days in advance. That way, everyone has a chance to get ready and gather for the big day (and night!).





Chances are good that Missouri will get snow in January or February. To make the most of what may be only a day or two of frozen fun, build your winter camping kit now. That way, you'll be ready to roost outside at the first sign of snow.



## Essential

**Tent** Get one that's waterproof and has a floor. Nothing spoils snow camping like a leaky roof or a soggy sleeping area. It also helps to get a tent that's easy to put up, especially if the sun goes down while you're trying to make camp. Tents that have shock-corded or connected poles are easier to work with than those you have to fit together. For attaching the poles to the tent, clips or J-hooks are easier to use than pole sleeves.

**Sleeping pad and bag** A sleeping pad not only protects you from lumpy rocks and roots, but it also helps keep you warm. An inflatable, insulated pad is best, but two foam pads stacked together will work, too. For winter camping, it's best to use a sleeping bag that's rated colder than the temperature you'll be sleeping in. Average minimum temperatures for Missouri range from 12 to 24 degrees Fahrenheit. A bag rated -20 should keep you warm.

Choose a sleeping bag made of synthetic material and filled with down feathers or synthetic down. Avoid cotton sleeping bags for winter camping. Cotton is poor insulation, and it will draw heat from your body if it gets wet.

**Flashlight** You'll want a flashlight (with fresh batteries) if you need to go to the bathroom in the middle of the night. A flashlight also comes in handy for making scary faces when you're telling ghost stories after dark.

## Pro tip

Synthetic base layers are good choices for winter camping. Cotton undies and jammies can give you a chill, especially if they get wet.



## Optional

### Camp stove and cooking pot

For making hot chocolate

### Handsaw or hatchet

For cutting up firewood branches

### Pocketknife

For whittling marshmallow sticks





## Pro tip

Take your boots off **BEFORE** you crawl inside the tent. Once inside, knock off the snow outside the tent door, and bring your boots inside before zipping up.

## Set up Camp and Gather Firewood

Pitch your tent on a flat area with the door pointing toward the house. That makes it easier to get to the bathroom when you need to. Arrange your sleeping pads and bags so they're easy to slip into. Lastly, hang a flashlight from the tent's center loop so the light shines right where you need it.

## Build a Fire or Light Your Camp Stove

This is where a grown-up really comes in handy. Build your fire or light your stove a safe distance from the tent. If the snow is patchy, and the grass is dry — don't build a fire! Grass fires can spread quickly. Plan B may include bringing hot chocolate and treats from the kitchen.

## Have S'More Fun

What's a campout without campfire treats?! Ask your grown-up to help you make hot chocolate and s'mores to warm you up for a night of winter camping. Once inside the tent, you and your bestie can play games, tell stories, or open the rain fly and look at the stars. It's your first snowy sleepover, so have fun!

## Pro tip

Wet socks and gloves? Just tuck them into the bottom of your sleeping bag. If they're made of wool or synthetic fiber, your body heat will dry them by morning.





# HOPPY LEAP YEAR!

by  
Matt Seek

## 2020

is a leap year. That means February will have 29 days instead of 28. To celebrate all those extra hours — 24 to be exact — we're looking at critters that take leaping to new lengths. Ready? Let's jump right in!

## MOVING Around

Many  
animals  
leap to get  
from place  
to place.

### Dashing Deer

White-tailed deer bound around in low, graceful leaps, throwing in higher jumps ever so often to get a better look. When they need to hoof it, they can bounce about at speeds up to 36 mph for 4 miles at a stretch. Getting over obstacles isn't a problem, either. When needed, deer can hop more than 8 feet into the air.



## Forest Flyer

To get from tree to tree, a flying squirrel climbs up high, leaps into the air, and spreads its legs like your crazy uncle doing a belly-buster at the pool. Unlike your uncle, however, the squirrel doesn't go splat. Draped between its wrists and ankles is a flap of skin that billows like a furry parachute. By steering with its long tail, the squirrely skydiver can swoop around branches and sail safely to its destination.



Philip Dalton / Alamy Stock Photo

80008006 © S&D & K Maslowski / FLPA / Minden Pictures



## Bouncy Mouse

When going about its day-to-day business, a meadow jumping mouse rarely hops farther than 6 inches at a time. But when the mouse needs to scurry in a hurry, it uses its large hind paws to leap up to 12 feet in a single bound. If a predator is in pursuit, the mouse zigzags between jumps, which makes it almost impossible to catch.



Can you find the jumping spider in these photos?



## Spring-Loaded Spider

## CATCHING Prey

Leaping comes in handy when you're hungry.

A jumping spider's spring comes not from strong muscles but from jetting blood into its back legs. This causes them to — *sproing!* — push out quickly. Most jumpers don't spin webs, but they do make silk. It's used to anchor a spider's backside to a surface before the spider springs into space. The silk acts like a lifeline, so a jumper can climb to safety if it misses its mark.

## Lethal Leap

Red foxes have superhero hearing. Need proof? A fox's oversized ears can pinpoint a vole rustling under the snow from 100 feet away. When the crimson canine detects such a yummy morsel, it can leap the length of a living room and dive headfirst into the snow to snap up the snack.

© Kirsanov | Dreamstime.com

## Super Cougar

Missouri's bounciest — and pounciest — mammal is the mountain lion. This rare visitor to the Show-Me State uses its powerful leg muscles to jump 20 feet straight up or 40 feet forward. This cat's out-of-bounds bounding doesn't make deer jump for joy. To catch whitetails and other prey, cougars creep close and then pounce, becoming a tawny-brown blur of claws and fur.



# ESCAPING Predators

Having  
a long leap  
helps prey  
avoid snack  
attacks.

## Flex Before You Leap

To escape hungry birds, a grasshopper can fling forward nearly 3 feet in a single, startling hop. To prepare for such a jump, the insect flexes beefy muscles in its big back legs. This draws the legs inward. The hopper's knees act like a spring, storing up all the energy. When the hopper relaxes its muscles, the legs spring out, launching the insect into the air.



© Dalton, Stephen/Animals/Earth Scenes

## King of Spring

The high-jump champion of the animal kingdom is a tiny insect called a spittlebug. These quarter-inch plant munchers can skyrocket 27 inches into the air. Though a few inches doesn't sound impressive, consider this: A human-sized spittlebug could easily hop over a 60-story skyscraper! And at takeoff, the bug's body feels a force of about 400 times that of gravity — something no human could ever survive.



## Oh, Snap!

The big black spots on a click beetle aren't its eyes. They're markings designed to scare away predators. But if the fake eyes fail to work, the beetle tries another trick. It bends its body into a "U" then straightens out suddenly with a loud CLICK! This flips the insect into the air and startles any critter that was hoping for a beetle bonbon.



# Other REASONS

Animals  
leap for  
many reasons.  
Some do it to  
attract a mate.  
Others do it to  
leave a nest.

## Leap of Faith

*Whee!* Mama wood ducks lay their eggs in holes high up in trees. About a day after they hatch, the baby ducklings follow mom to the front door of the treehouse and bail out. The little fluff balls can fall more than 250 feet onto hard ground without being injured.



Danita Delimont - Alamy Stock Photo







## Rabbit Rumble

Cute and cuddly doesn't cut it for female cottontails. They want brawny boyfriends. To show how tough they are, male rabbits punch and bite each other. Often, one of the flop-eared fighters will leap high into the air and try to kick his opponent as he sails overhead. The rabbit that loses stays lonesome. The winner gets the girl.



Cristina Lichti | Alamy Stock Photo

## Fintastic Jumper

Beware of flying fish! Silver carp can leap over 10 feet out of the water when they're startled by a predator or a boat's motor. The heavy fish, which are native to Asia but have invaded Missouri's waterways, can injure anglers and even knock people overboard.





THE STRUGGLE TO SURVIVE ISN'T ALWAYS A FAIR FIGHT

THIS  
ISSUE:

# SHORT-TAILED SHREW VS. WHITE-FOOTED MOUSE

Illustrated by  
David Besenger

## Big on Venom

If the shrew lands a bite, its venom can paralyze the larger mouse.

## Burning Hunger

To keep from starving, the over-amped little shrew must eat three times its body weight each day. No wonder it's so fierce!

## Escape Velocity

The mouse can run 8 feet per second and leap to escape a predator.

**AND THE WINNER IS...**

It may be venomous, but the shrew has poor eyesight and a lousy sense of smell. The mouse dodges the shrew's attack and leaps to safety. The mouse wins.



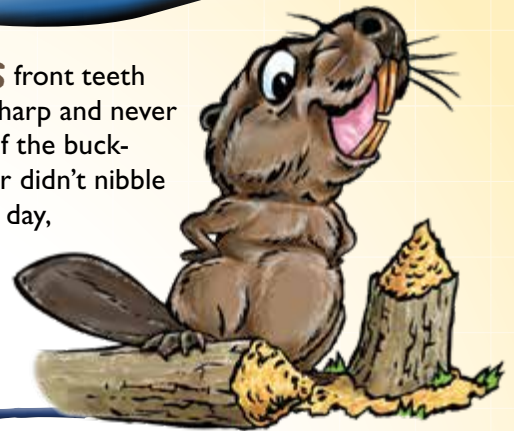
# STRANGE but TRUE!

YOUR GUIDE TO ALL THE  
**UNUSUAL, UNIQUE,**  
AND **UNBELIEVABLE**  
STUFF THAT GOES ON IN NATURE

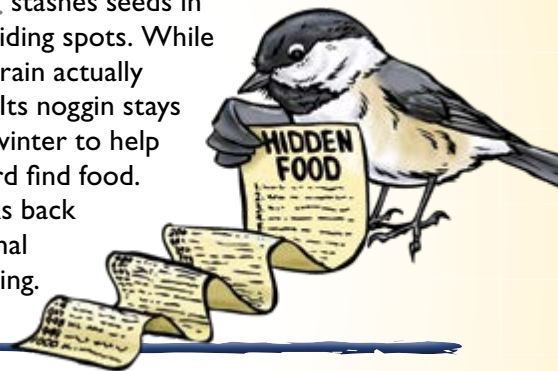
Gulls aren't found only at the beach. **RING-BILLED GULLS** are often spotted at large lakes and rivers throughout Missouri. They even turn up at city dumps and supermarket parking lots looking for scraps of food.



A **BEAVER'S** front teeth are chainsaw-sharp and never stop growing. If the buck-toothed builder didn't nibble on trees every day, its chompers would soon grow too long for its head.



In the fall, a **BLACK-CAPPED CHICKADEE** stashes seeds in hundreds of hiding spots. While doing so, its brain actually grows bigger. Its noggin stays oversized all winter to help the hungry bird find food. Then it shrinks back down to normal size in the spring.



Unlike other deer, **ELK** have two canine teeth called ivories. The thumb-sized chompers are made of the same stuff as elephant and walrus tusks. Scientists think prehistoric elk used longer, saberlike tusks for fighting.

The bright yellow dots on a **SPOTTED SALAMANDER** are a warning to would-be predators. When threatened, the candy-bar-sized amphibian releases a milky poison from its skin that makes it taste terrible.



Slithery slumber party: **EASTERN GARTERSNAKES** often crowd together in the same winter den. One crevice in Canada is known to contain tens of thousands of resting reptiles tangled together in a space the size of your living room.



Snow brrrrrds: **COMMON REDPOLLS** sometimes tunnel under the snow to stay warm on chilly winter nights. By doing so, these tough northern finches can survive temperatures of 65 degrees below zero.





# HOW TO

## Stay Safe in Cold Weather

When you're having fun in the snow, it's easy to forget about chilly weather. But letting your body get too cold can make you feel crummy and even be dangerous.



### **Hypothermia**

*(high-poe-thur-mee-ah)* happens when your body loses heat faster than it can make it. If this goes on too long, it can cause your temperature to drop below normal and your heart, brain, and other organs to work poorly.





## WATCH FOR WARNING SIGNS

Pay attention to the signals your body is sending, and keep an eye on your friends. These signs are your body's way of warning you that it's getting too cold:

- \* Chattering teeth
- \* Shivering that won't stop
- \* Feeling tired
- \* The "umbles": mumbling (slurring words when you talk), stumbling when you walk, or fumbling (not being able to control your hands and fingers well)

## ACT FAST TO GET WARM

If you notice that you or one of your friends has symptoms of hypothermia, do something about it immediately to stop it from getting worse.

1. Tell an adult about the warning signs.
2. Go indoors or into a heated vehicle to warm up.
3. Remove damp clothing and change into warm, dry clothes.
4. Wrap up in a blanket or sleeping bag.
5. Eat and drink sweet, fatty foods, such as cocoa and candy bars.
6. Rest for at least 30 minutes.

## BUILD A BURRITO

If you're a long way from a warm place and one of your friends is showing signs of hypothermia, you need to warm them up quickly. One of the best ways to do this is to turn them into a human burrito.

1. Spread out a tarp or the rainfly from a tent.
2. Put a foam sleeping pad or air mattress on top of the tarp.
3. Place a sleeping bag or blanket on top of the pad.
4. If your buddy is wearing wet clothes, have them change into dry clothes. Have your buddy lie on their back in the sleeping bag or atop the blanket.
5. If you have heating packs, put them on your buddy's chest or tuck them under their armpits.
6. Zip up the sleeping bag or wrap your buddy up in the blanket. Make sure their head is covered.
7. Wrap the tarp around the sleeping bag. Leave an opening so your buddy can breathe.
8. While your buddy rests, build a fire and set up a tent.



# XPLOR MOR



## Feeder Frenzy

### INSTRUCTIONS

This cardinal is a picky eater! It only eats peanuts, millet, and sunflower seeds. And it always eats them in this order:



Peanut



Millet



Sunflower seed

Can you help the hungry bird eat its way across this bird feeder? You can move up, down, left, and right, but not diagonally.




End

Start

## WHAT IS IT?

— FROM PAGE 3 —

members. In summer, otters catch and eat lots of water critters, including crayfish, turtles, and mussels. In winter, otters eat mainly fish. Baby otters are born in February or March. Learn more at [mdc.mo.gov/field-guide](http://mdc.mo.gov/field-guide).

The American river otter is playful and fun to watch, especially in winter. Thick, oily fur and heavy layers of fat keep the otter warm, even underwater. Otters hunt mostly at night, usually with family





# E...



# Happy Birthday to Us!

## Xplor turns 10 years old in February. Wahoo!

To celebrate, we're asking readers to tell us what they think about the magazine.

If you'd like to give us the best birthday present ever, grab an adult and share your opinions at:

**[mdc.mo.gov/myxplor](http://mdc.mo.gov/myxplor)**

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## FLOWER CRITTER CORNER

### Ozark Witch-Hazel



Not much blooms in January, but even if there's snow on the ground, the fragrant, yellow buds of witch-hazel may be popping open. Look (and sniff) for this woody shrub along rocky streams or in your local park. Lots of people like to plant witch-hazel for its sweet-smelling, early-blooming flowers and golden fall leaves. Deer will eat the leaves of witch-hazel, and turkeys will eat the seeds and flowers. Learn more at [mdc.mo.gov/field-guide](http://mdc.mo.gov/field-guide).